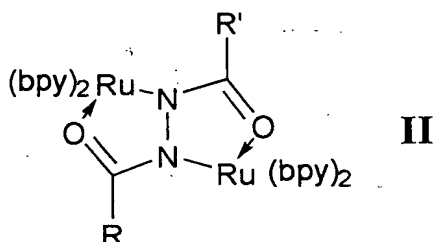


**I claim:**

1. A ruthinium complex having the following formula:

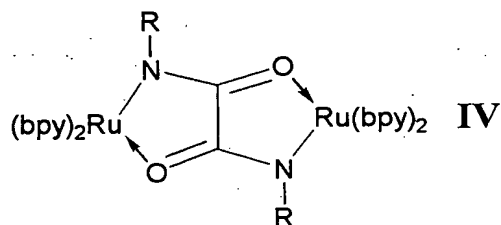


where R and R' are different organic substituents.

2. A complex as claimed in claim 1, where each of R and R' are different organic substituents selected from the group consisting of phenyl, nitrophenyl, methoxyphenyl, trifluoromethyl, *N,N*-dialkylamino, *N*-alkylamino, and alkyl groups.

3. A complex as claimed in claim 2, in which the alkyl groups are C1-C18 linear or branched chain alkyl groups.

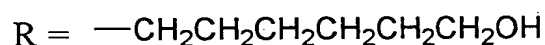
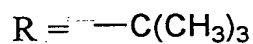
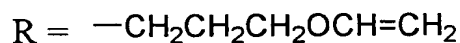
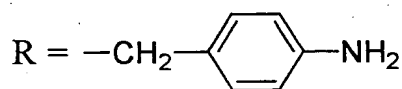
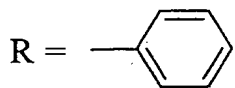
4. A ruthenium complex having the formula :



wherein the two R groups can be different or the same and are selected from hydrogen, alkyl, aryl, haloalkyl, hydroxyalkyl, -NH<sub>2</sub>, NR<sub>2</sub> with R<sub>2</sub> being alkyl or aryl.

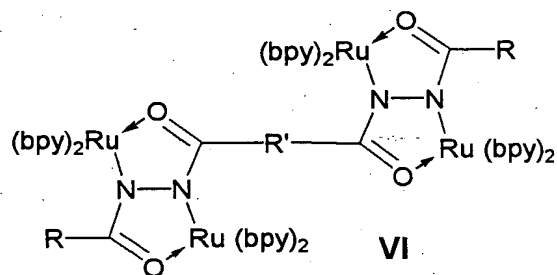
5. A complex as claimed in claim 4, in which at least one of R<sub>1</sub> and R<sub>2</sub> contains at least one other functional group selected from carboxylic acid (-COOH), hydroxyl (-OH), amino (-NH<sub>2</sub>), acetylenic, alkenylenic and thio (-SH).

6. A complex as claimed in claim 4, in which R is one of the following:



5

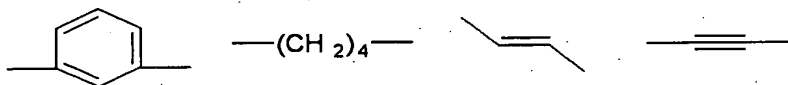
7. A ruthenium complex having the formula:



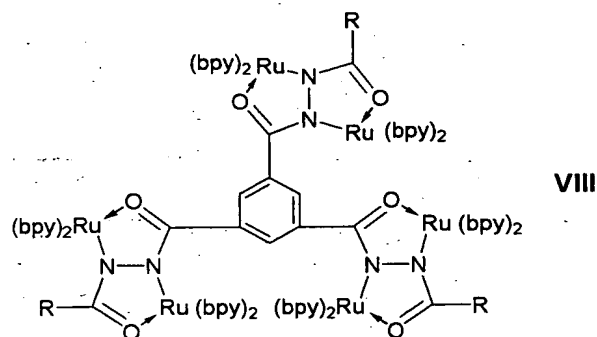
- 10 wherein R and R' may be the same or different and are selected from the group consisting of hydrogen, alkyl, aryl, haloalkyl, hydroxyalkyl, -NH<sub>2</sub>, NR<sub>2</sub> with R<sub>2</sub> being alkyl or aryl.

8. A complex as claimed in claim 7, in which at least one of R<sub>1</sub> and R<sub>2</sub> contains at least one other functional group selected from carboxylic acid (-COOH), hydroxyl (-OH),  
15 amino (-NH<sub>2</sub>), acetylenic, alkenylenic and thio (-SH).

9. A complex as claimed in claim 7, in which R is phenyl and R' is selected from:



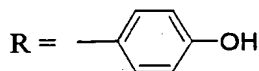
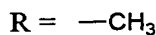
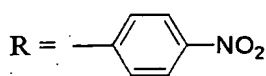
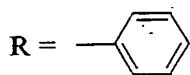
5 10. A ruthenium complex having the formula:



where each of the R groups may be the same or different, and is selected from the group consisting of hydrogen, alkyl, aryl, haloalkyl, hydroxyalkyl,  $\text{-NH}_2$ ,  $\text{NR}_2$  with  $\text{R}_2$  being alkyl or aryl.

10 11. A complex as set out in claim 10, in which at least one of  $\text{R}_1$  and  $\text{R}_2$  contains at least one other functional group selected from carboxylic acid ( $\text{-COOH}$ ), hydroxyl ( $\text{-OH}$ ), amino ( $\text{-NH}_2$ ), acetylenic, alkenylenic and thio ( $\text{-SH}$ ).

15 12. A complex as claimed in claim 10, in which each of the R groups is the same and is selected from the group consisting of:



13. A complex polymer film, comprising a ruthenium complex of claim 4  
5 crosslinked with a diisocyanate or a triisocyanate.

14. A complex polymer film, comprising a ruthenium complex of claim 4  
crosslinked with a compound selected from (i) a diisocyanate selected from the group  
consisting of toluene diisocyanate, xylylene diisocyanate, hexahydroxylylene diisocyanate and  
10 hexamethylene diisocyanate and (ii) a triisocyanate prepared from trimetholyol propane and  
xylylene diisocyanate.

15. A complex polymer film, comprising a ruthenium complex of claim 7  
crosslinked with a diisocyanate or a triisocyanate.

16. A complex polymer film, comprising a ruthenium complex of claim 7  
crosslinked with a compound selected from (i) a diisocyanate selected from the group  
consisting of toluene diisocyanate, xylylene diisocyanate, hexahydroxylylene diisocyanate and  
hexamethylene diisocyanate and (ii) a triisocyanate prepared from trimetholyol propane and  
20 xylylene diisocyanate.

17. A complex polymer film, comprising a ruthenium complex of claim 10  
crosslinked with a diisocyanate or a triisocyanate.

18. A complex polymer film, comprising a ruthenium complex of claim 10 crosslinked with a compound selected from (i) a diisocyanate selected from the group consisting of toluene diisocyanate, xylylene diisocyanate, hexahydroxylylene diisocyanate and hexamethylene diisocyanate and (ii) a triisocyanate prepared from trimetholyol propane and xylylene diisocyanate.

19. A light attenuating device comprising the complex of claim 1.

20. A light attenuating device comprising the complex of claim 4.

21. A light attenuating device comprising the complex of claim 7.

22. A light attenuating device comprising the complex of claim 10.

23. A light attenuating device comprising the complex polymer film of claim 4.

24. A light attenuating device comprising the complex polymer film of claim 7.

25. A light attenuating device comprising the complex polymer film of claim 10.